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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/737,376	12/16/2003	Chad Michael Sorenson	088365-9002	5384

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EXAMINER

WILSON, KATINA M

ART UNIT	PAPER NUMBER
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2856

DATE MAILED: 11/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/737,376

Applicant(s)

CHAD SORENSON

Examiner

Katina M Wilson

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 December 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 5-8, 10-15, 18, 24-26, 28 and 31-34 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☐ Claim(s) _____ is/are rejected.
- 7) ☒ Claim(s) 18, 32 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 16 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. §§ 119 and 120

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-3 and 5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wilkins (6289728) in view of Pontefract (5305639).

Claim 1, Wilkins teaches an "Apparatus and method for determining the amount of liquid contained in a storage tank" which has a tank module means (26), a microcontroller means (65), and a display means (80). Wilkins does not teach a magnetic sensing means for determining an angular position of a magnetic field of a magnet from a magnetic float connected to the tank and/or transmitting the angular position. However, Pontefract teaches an "LPG gauge sensor" which has a magnetic sensing means for determining an angular position of a magnetic field of a magnet from a magnetic float connected to the tank and transmitting the angular position (150). Therefore, it would have been obvious to the skilled artisan at the time of invention to modify Wilkins to include a magnetic sensing means for determining an angular position of a magnetic field of a magnet from a magnetic float connected to the tank and transmitting the angular position as taught by Pontefract since having a magnetic sensing means for determining an angular position of a magnetic field of a magnet from a magnetic float connected to the tank and transmitting the angular position makes

measurement more accurate. Wilkins does not teach the location of the tank module means to be mounted to a gauge of the magnetic float gauge assembly. However, Pontefract shows where the tank module means to be mounted to a gauge of the magnetic float gauge assembly (Figure 1). Therefore, the skilled artisan would have been inclined to modify Wilkins to include where the tank module means is mounted to a gauge of the magnetic float gauge assembly as taught by Pontefract because it would make the invention more compact.

As to claim 2, Wilkins does not teach the location of the tank module means comprise an attachment means for attaching the tank module means to the gauge without physically modifying the gauge. However, Pontefract teaches the location of the tank module means to be mounted to a gauge of the magnetic float gauge assembly (Figure 5). Therefore, it would have been obvious to the skilled artisan at the time of invention to modify Wilkins to include the location of the tank module means to comprise an attachment means for attaching the tank module means to the gauge without physically modifying the gauge as taught by Pontefract since they are from the same field of endeavor.

As to claim 3, Wilkins does not teach where the attachment means is attached to the gauge without interfering with the operation of the gauge. However, Pontefract teaches the location of the attachment means to be attached to the gauge without interfering with the operation of the gauge (Figure 5). Therefore, it would have been obvious to the skilled artisan at the time of invention to modify Wilkins to include the location of the attachment means is attached to the gauge without interfering with the

operation of the gauge as taught by Pontefract since it would be easier to replace if damaged.

In claim 5, Wilkins teaches the microcontroller means to calculate the fluid level value. Wilkins does not explicitly teach the microcontroller means calculates the percentage of fluid remaining in the tank. However, when knowing the remaining amount of fluid in the tank the skilled artisan would know the percentage of fluid remaining within the tank.

3. Claims 6-8,10 and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Orlando et al. in view of Pontefract and Shea.

As claim 6, Orlando teaches a tank module means (12), a microcontroller means (12A), a display means (14D), a radio transmitting means (14B), a radio receiving means (14C), a battery means and a display module means for receiving fluid information (14) (Column 3, line 35). Orlando does not teach a magnetic sensing means for determining an angular position of a magnetic field of a magnet from a magnetic float connected to the tank and transmitting the angular position. However, Pontefract teaches a magnetic sensing means for determining an angular position of a magnetic field of a magnet from a magnetic float connected to the tank and transmitting the angular position (150). Orlando et al. teaches a housing for enclosing the radio receiving means the display, the display module microcontroller means and the display means (14). Neither Orlando et al. nor Pontefract teaches the location of a battery means for powering the magnetic sensing means, tank module controller means and a radio transmitting means. However, Shea teaches a "Residential fuel oil tank level

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reporting device" which teaches the location of a battery means for powering the magnetic sensing means, tank module controller means and a radio transmitting means (Figure 1). Therefore, it would have been obvious to the skilled artisan to modify Orlando et al. to include where a battery means for powering the magnetic sensing means, tank module controller means and a radio transmitting means as taught by Shea since having a battery to power several things would be good incase of a lost of power.

In claim 7, Orlando et al. does not teach the location of the tank module means comprise an attachment means for attaching the tank module means to the gauge without physically modifying the gauge. However, Pontefract teaches the location of the tank module means is mounted to a gauge of the magnetic float gauge assembly (Figure 5). Therefore, it would have been obvious to the skilled artisan at the time of invention to modify Orlando et al. to include where the tank module means comprise an attachment means for attaching the tank module means to the gauge without physically modifying the gauge, since they are from the same field of endeavor.

In claim 8, Orlando et al. does not teach the location of the attachment means is attached to the gauge without interfering with the operation of the gauge. However, Pontefract the location of the attachment means is attached to the gauge without interfering with the operation of the gauge (Figure 5). Therefore, it would have been obvious to the skilled artisan at the time of invention to modify Orlando et al. to include the location of the attachment means is attached to the gauge without interfering with

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the operation of the gauge as taught by Pontefract since it would be easier to replace if damaged.

In claim 10, Orlando et al. teaches the location of the microcontroller means calculates the fluid level value. Wilkins does not explicitly teach where the microcontroller means calculates the percentage of fluid remaining in the tank.

However, when knowing the remaining amount of fluid left the skilled artisan would know the percentage of fluid remaining within the tank.

In claim 13, it is considered a design choice and well within the purview of the skilled artisan to include a timing means for the tank module controller.

In claims 14 and 15, Orlando et al. teaches the location of the tank module means continuously detects, transmits and displays the fluid level (Column 5, lines 34-36).

4. Claim 24-26 and 31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Duenas.

Claim 24, Duenas teaches a "Method and system for measuring and remotely reporting the liquid level of tanks and the usage thereof" which has a tank module (22) with a housing, a magnetic sensor (154), a microcontroller (142), an RF transmitter (101), a display module comprising a housing, a controller, a display and a RF receiver (Column 7, 6-15), where the tank module housing encloses the microcontroller, magnetic sensor, tank module battery, a RF transmitter (Figure 10), a magnetic sensor, tank module battery and RF transmitter are connected to the tank module microprocessor (Figure 10), where the display module housing encloses the display

module microcontroller, display module display, the RF receiver and the display module and the RF receiver are connected to the display module microcontroller (Column 7, 6-15). Duenas has an attachment means that is not a band. However, it provides the same function as the band.

In claim 25, Duenas teaches a magnetic gauge assembly (Figure 2). Duenas has an attachment means that is not a band. However, it provides the same function as the band.

In claim 26, Duenas does not teach the location of the attachment means is attached to the gauge without interfering with the operation of the gauge. However, Pontefract teaches the location of the attachment means is attached to the gauge without interfering with the operation of the gauge (Figure 5). Therefore, it would have been obvious to the skilled artisan at the time of invention to modify Duenas to include the location of the attachment means is attached to the gauge without interfering with the operation of the gauge, since it would be easier to replace if damaged.

In claim 31, Duenas teach the location of the display module has an audio transducer connected to the display module microcontroller (Column 7, lines 11-15).

5. Claim 28 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duenas in view of Orlando et al.

Claim 28, Duenas does not teach the location of the tank module has a display, which is connected to the tank module microcontroller. However, Orlando et al. teach the location of the tank module has a display, which is connected to the tank module microprocessor (Figure 2). Therefore, it would have been obvious to one of ordinary

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skill in the art at the time of invention to modify Duenas to include where the tank module has a display, which is connected to the tank module microprocessor, since they are from the same field of endeavor.

6. Claim 33 is rejected under 35 U.S.C. 103(a) as being unpatentable over Duenas in view of Shea.

Claim 33, Duenas does not teach the location of the display module has a battery unit housed within the display module housing and connected to the module microcontroller. However, Shea teach the location of the display module has a battery unit housed within the display module housing and connected to the module microcontroller (Figure 1). Therefore, to modify Duenas to include the location of the display module has a battery unit housed within the display module housing and connected to the module microcontroller, would have been within the purview of the skilled artisan since having a battery would be good incase of a lost of power.

Allowable Subject Matter

7. Claims ~~18~~¹⁸, 18, 32 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Closing

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Katina M Wilson whose telephone number is 571-272-2209. The examiner can normally be reached on Monday-Thursday 8:00am-4:00pm, off on Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hezron E Williams can be reached on 571-272-2209. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0956.

kw
November 1, 2004



HEZRON WILLIAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800